

IN THE CLAIMS:

1-2. (Canceled).

3. (Currently Amended) An electrostatic coating spray gun for electrifying a coating material atomized by compressed air using high voltage and coating the same onto a substance to be coated, the spray gun comprising:

a barrel constituting a main body of the spray gun;

an air cap mounted on a front of the barrel;

a coating material delivery port which is defined in a central part of the air cap and is open outwardly;

a centralized electrode protruding forward through the coating material delivery port;

a first pair of projections formed at respective radial opposing positions of the air cap while sandwiching the centralized electrode therebetween, and said projections protruding farther forward than the coating material delivery port;

a pattern air flow channel formed in the projections so that compressed air is spouted inwardly forward with respect to the projections; and

a pair of insulatively shielded electrodes accommodated in the respective projections and having respective surfaces covered with an electrically insulating material,

wherein the centralized electrode is grounded and a high DC voltage is applied between the centralized electrode and the insulatively shielded electrodes wherein the pin electrode 31 is caused to protrude from the middle region of the air cap 40 attached to the front surface portion of the barrel 2 being the main body of the electrostatic coating spray gun 1, through the coating material delivery port 30 opening outwardly; the square sections 40d and 40e protruding forward from the coating material delivery port 30 are formed at the upper and lower positions in the diametrical direction of the air cap with the corresponding pin electrode 31 placed therebetween; insulatively shielded electrodes 13a and 13b whose surfaces are covered up with an electrically insulating material are accommodated in the interior of the corresponding square sections 40d and 40e; and high dc voltage is applied between the grounding and the insulatively shielded electrodes 13a and 13b with the pin electrode 31 grounded.

4. (Currently Amended) The electrostatic coating spray gun according to claim Claim 3, further comprising wherein another a second pair of square portions sections 40f and 40g projections projecting forward from the coating material delivery port [[30]] and said first pair being at respective upper and lower positions of said air cap and said second pair being are further provided at [[the]] respective left and right positions in a [[the]] diametrical direction of the air cap [[40]] with the [[pin]] centralized electrode [[31]] placed therebetween; another pair of insulatively shielded electrodes 13f and 13g whose surface is covered [[up]] with an electrically insulating material, said another pair of insulatively shielded electrodes being [[are]] accommodated, respectively, in said second pair of projections [[the]] square sections 40f and 40g; and high dc voltage is applied between the centralized electrode grounding and the insulatively shielded electrodes 13f and 113g.

5. (Withdrawn – Currently Amended) An electrostatic coating spray gun for electrifying a coating material atomized by compressed air using high voltage and coating the same onto a substance to be coated, the spray gun comprising:

a barrel constituting a main body of the spray gun;
an air cap mounted on the front of the barrel;
a coating material delivery port which is defined in a central part of the air cap and is open outwardly;
a centralized electrode protruding forward through the coating material delivery port;
The electrostatic coating spray gun according to Claim 3, wherein, instead of the square sections 40d and 40e and the insulatively shielded electrodes 13a and 13b, [[a]] at least one projection ring-shaped portion 29a projecting forward from the coating material delivery port [[30]] and [[is]] formed at positioned within a [[the]] circumferential region extending about said centralized electrode, and said at least one projection forming surrounding part of the air cap [[40]] so that the ring-shaped portion 29a surrounds projection is radially spaced from said centralized the pin electrode [[31]]; and said at least one projection receiving an a ring-shaped insulatively shielded electrode which shielded electrode has [[13d]] a whose surface [[is]] covered [[up]] with an electrically insulating material, the insulatively shielded electrode being

[[is]] accommodated in the interior of the ~~ring-shaped portion~~ projection, wherein 29a, and high dc voltage is applied between the centralized electrode grounding and the ~~ring-shaped~~ insulatively shielded electrode 13d ~~with the pin electrode 31 grounded~~.

6. (Withdrawn – Currently Amended) The electrostatic coating spray gun according to claim 3 ~~any one of Claims 1 through 5~~, wherein ~~the pin electrode 31 is eliminated, instead thereof~~, a portion of the air cap that forms the coating material delivery port [[30]] is composed of a conductive material and defines said centralized electrode, and a paint having conductivity is used as the coating material, and high dc voltage is applied between the grounding and the insulatively shielded electrodes.

7. (Withdrawn - Currently Amended) The electrostatic coating spray gun according to claim 3 ~~any one of Claims 1 through 5~~, wherein the centralized ~~[[pin]]~~ electrode is provided by ~~31 is eliminated~~, a paint having conductivity and is used as the coating material, and high dc voltage is applied between the paint grounding and the insulatively shielded electrodes.

8. (Currently Amended) The electrostatic coating spray gun according to claim 14 ~~any one of Claims 1 through 5~~, wherein the pin electrode 31 is grounded by a wiring cable.

9. (Currently Amended) The electrostatic coating spray gun according to claim 3 ~~any one of Claims 3 through 5~~, wherein the barrel has an outer periphery and the air cap includes an outer cylinder, the spray gun further comprising a retaining nut threadingly engaged with the outer periphery of the barrel, the retaining nut having a shaping air spout port which is located near the tip end of the barrel so that compressed air is spouted forward along an outer surface of the outer cylinder of the air cap from the shaping air spout port a shaping air spout port 37a is provided at the outside portion of the outer cylinder of the air cap 40 in the vicinity of the tip end of the barrel 2 being the main body of the electrostatic coating spray gun, and compressed air is spouted forward along the outer cylinder surface of the air cap 40 from the corresponding shaping air spout port 37a.

10. (New) The electrostatic coating spray gun according to claim 3, wherein said projections are multi-walled bodies each having an elongated cavity which receives a respective one of said shielded electrodes.

11. (New) The electrostatic coating spray gun according to claim 3, wherein said shielded electrodes are pin-shaped electrodes and said projections form a cap over a free end of said shielded electrodes.

12. (New) The electrostatic coating spray gun according to claim 3, wherein said pattern air flow channel in each of said projections is spouted diagonally radially inward forward.

13. (New) The electrostatic coating spray gun according to claim 3, wherein each of said projections have a multi-sided wall extending around a respective side surface of said shielded electrodes and a cap end wall extending over a respective free end of said shielded electrodes, and wherein said multi-sided wall of said projections include port holes through which the compressed air is spouted.

14. (New) The electrostatic coating spray gun according to claim 3, wherein said centralized electrode is a pin electrode.

15. (New) The electrostatic coating spray gun according to claim 4, wherein said centralized electrode is a pin electrode.

16. (New) The electrostatic coating spray gun according to claim 5, wherein said at least one projection comprises a first pair of projections extending forward of said coating material delivery port and each receiving therein a respective insulatively shielded electrode.

17. (New) The electrostatic coating spray gun according to claim 16, further comprising a second pair of projections extending forward of said coating material delivery port,

and being circumferentially spaced from said first pair of projections and each of said second pair of projections receiving a respective insulatively shielded electrode.

18. (New) The electrostatic coating spray gun according to claim 5, wherein said projection defines an air flow port directed radially inward.

19. (New) The electrostatic coating spray gun according to claim 5, wherein said central electrode is a pin electrode extending through or along said coating material delivery port.

20. (New) The electrostatic coating spray gun according to claim 5, wherein said at least one projection is a ring shaped or partial ring shaped projection that receives said shielded electrode which is ring shaped or partial ring shaped.

21. (New) The electrostatic spray gun according to claim 15, wherein the pin electrode is grounded by a wiring cable.

22. (New) The electrostatic spray gun according to claim 5, wherein the centralized electrode is grounded by a wiring cable.

23. (New) The electrostatic spray gun according to claim 4, wherein the barrel has an outer periphery and the air cap includes an outer cylinder, the spray gun further comprising a retaining nut threadingly engaged with the outer periphery of the barrel, the retaining nut having a shaping air spout port which is located near the tip end of the barrel so that compressed air is spouted forward along an outer surface of the outer cylinder of the air cap from the shaping air spout port.

24. (New) The electrostatic spray gun according to claim 5, wherein the barrel has an outer periphery and the air cap includes an outer cylinder, the spray gun further comprising a retaining nut threadingly engaged with the outer periphery of the barrel, the retaining nut having

a shaping air spout port which is located near the tip end of the barrel so that compressed air is spouted forward along an outer surface of the outer cylinder of the air cap from the shaping air spout port.